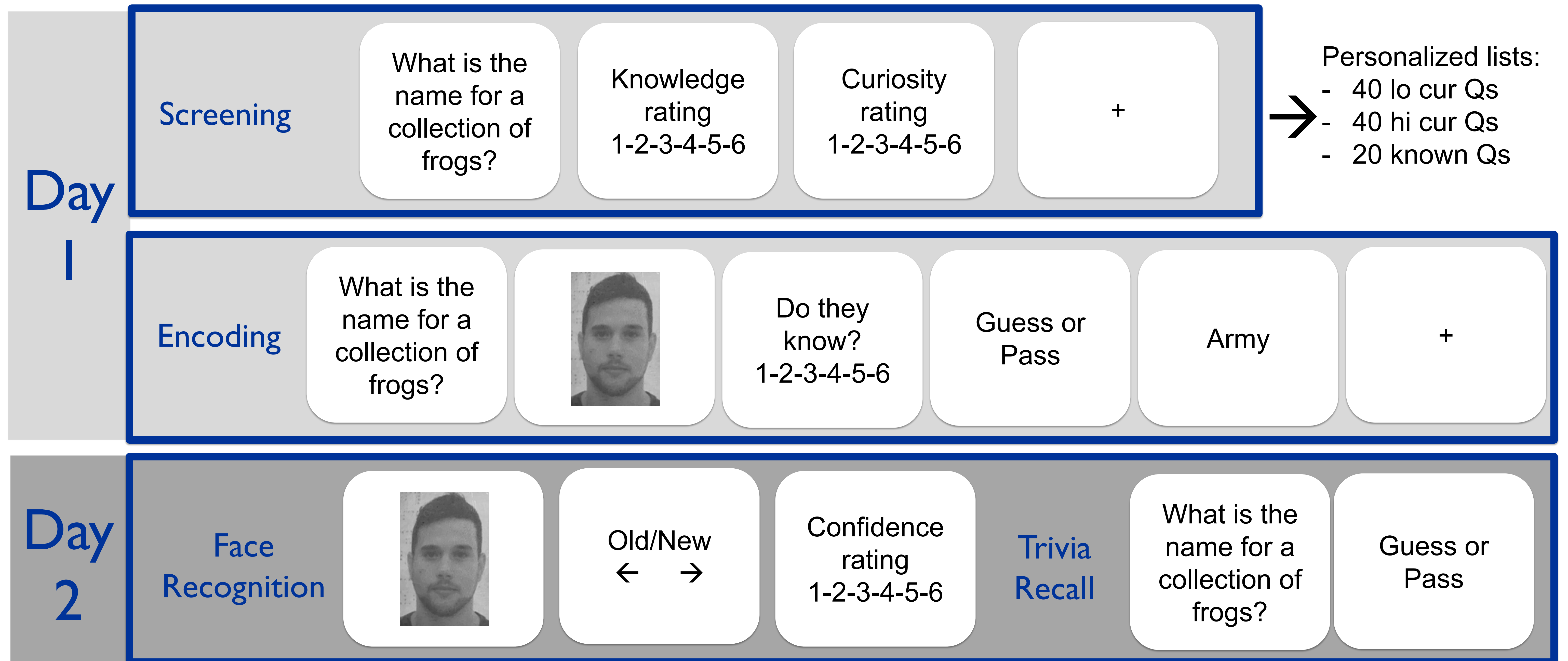


# The effect of epistemic curiosity and financial reward on younger and older adults' memory

## Introduction

- **Epistemic curiosity**—the **intrinsic** desire for new knowledge—boosts memory for interesting trivia in younger and older adults<sup>1,2</sup>
- **Financial reward**—a source of **extrinsic** motivation—has also been linked to improved recall in younger and older adults<sup>3,4</sup>
- Curiosity and financial reward have also been linked to improved memory for temporally contiguous, **non-target** information in adults<sup>1,2,4</sup>
- Less is known about the **interaction** between intrinsic and extrinsic motivation on memory
- According to the **undermining effect**, extrinsic rewards weaken intrinsic motivation to learn<sup>5</sup>
  - Demonstrated in younger adults with trivia<sup>6</sup>, but older adults may not be as sensitive to financial rewards<sup>7</sup>
- The current study tested the interaction between intrinsic (curiosity) and extrinsic (monetary reward) motivation on memory for trivia and unrelated distractors in younger and older adults

## Procedure



## Research Question

How do financial reward and curiosity influence memory for trivia and unrelated faces in younger and older adults?

**Hypothesis:** Recall for high-curiosity trivia will be worse in extrinsically motivated younger adults but older adults will not show this undermining effect.

## Method

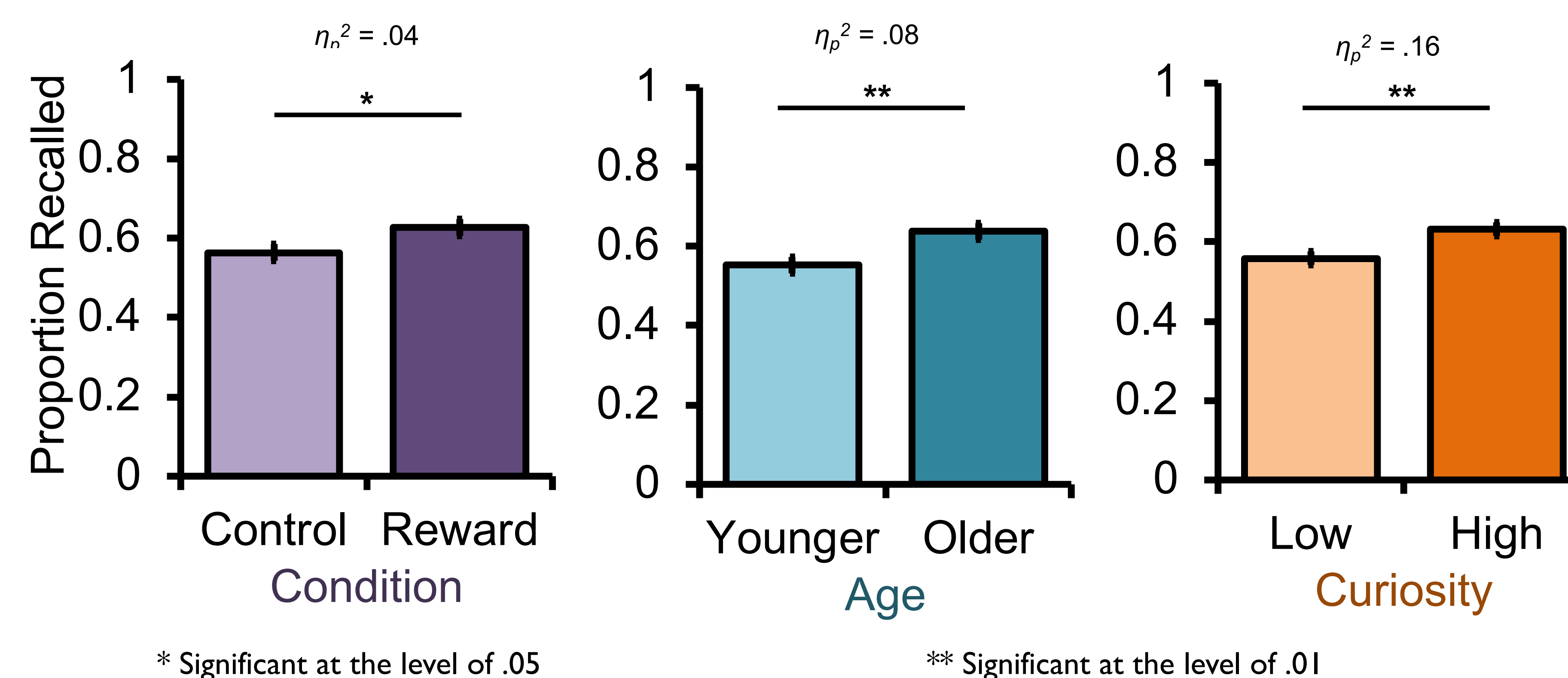
### Design:

- 2 x 2 x 2 mixed design:
- Between: **Condition** (Control, Reward)  
**Age** (Younger, Older)
  - Within: **Curiosity** (High, Low)

### Participants:

60 younger adults, aged 17-35 ( $M=25$ ,  $SD=5.14$ ), 30 female  
 52 older adults, aged 60+ ( $M=70$ ,  $SD=6.48$ ), 33 female

## Results: Trivia Recall Accuracy



Significant main effects of condition, age, and curiosity. Overall, participants from the **reward** condition and **older** participants recalled more trivia, and participants recalled more **high** than low **curiosity** trivia. No significant interactions.

Recognition of unrelated faces was not modulated by condition, age, or curiosity.

## Conclusion

Extrinsic reward did not undermine intrinsic curiosity, but both acted to improve memory for trivia in both age groups. Memory for unrelated faces did not benefit from either intrinsic or extrinsic motivation.

## References

- 1 Gruber et al (2016)
- 2 Galli et al (2018)
- 3 Adcock et al (2006)
- 4 Mather & Schoeke (2011)
- 5 Deci et al (1999)
- 6 Murayama & Kuhbandner (2011)
- 7 Eppinger et al (2012)

## Acknowledgements

